Codes for Graphs

2019 Graph:

library(readxl)

TNFatOD\_2019 <- read\_excel("Documents/TNFatOD\_2019.xlsx")

> View(TNFatOD\_2019)

> mapdata <- map\_data("county")

> View(mapdata)

> mapdata <- left\_join(mapdata, TNFatOD\_2019, by=c("subregion", "region"))

> mapdata1 <- mapdata %>% filter(!is.na(mapdata$overdose))

> View(mapdata1)

> map1 <- ggplot(mapdata1, aes(x=long, y=lat, group=group)) + geom\_polygon(aes(fill= overdose), color = "black")

> map2 <- map1 + scale\_fill\_gradient(name = "Total Opioid Overdose Deaths", low = "light green", high = "red",limits = c(0,400), breaks=c(25,50,75,100,125,150,175,200,225,250,275,300,325,350,375,400), na.value = "grey50")+ theme(axis.text.x = element\_blank(), axis.text.y = element\_blank(), axis.ticks = element\_blank(), axis.title.x = element\_blank(), axis.title.y = element\_blank(), rect = element\_blank())

> map2

2020 Map:

library(readxl)

TNFatOD\_2020 <- read\_excel("Documents/TNFatOD\_2020.xlsx")

> View(TNFatOD\_2020)

> mapdata <- map\_data("county")

> View(mapdata)

> mapdata <- left\_join(mapdata, TNFatOD\_2020, by=c("subregion", "region"))

> mapdata1 <- mapdata %>% filter(!is.na(mapdata$overdose))

> View(mapdata1)

> map1 <- ggplot(mapdata1, aes(x=long, y=lat, group=group)) + geom\_polygon(aes(fill= overdose), color = "black")

> map2 <- map1 + scale\_fill\_gradient(name = "Total Opioid Overdose Deaths", low = "light green", high = "red",limits = c(0,400), breaks=c(25,50,75,100,125,150,175,200,225,250,275,300,325,350,375,400), na.value = "grey50")+ theme(axis.text.x = element\_blank(), axis.text.y = element\_blank(), axis.ticks = element\_blank(), axis.title.x = element\_blank(), axis.title.y = element\_blank(), rect = element\_blank())

> map2

Overdose Difference Graph:

>library(readxl)

> TNFatODDiff <- read\_excel("Documents/TNFatODDiff.xlsx")

> View(TNFatODDiff)

> mapdata <- map\_data("county")

> mapdata <- left\_join(mapdata, TNFatODDiff, by=c("subregion", "region"))

> View(mapdata)

> mapdata1 <- mapdata %>% filter(!is.na(mapdata$overdose))

> View(mapdata1)

> map1 <- ggplot(mapdata1, aes(x=long, y=lat, group=group)) + geom\_polygon(aes(fill= overdose), color = "black")

> map1

> map2 <- map1 + scale\_fill\_gradient(name = "Change in Opioid Overdose Deaths", low = "light green", high = "red",limits = c(-25,200), breaks=c(-25,0,25, 50,75, 100, 125, 150, 175, 200), na.value = "grey50")+ theme(axis.text.x = element\_blank(), axis.text.y = element\_blank(), axis.ticks = element\_blank(), axis.title.x = element\_blank(), axis.title.y = element\_blank(), rect = element\_blank())

> map2